

AMENDMENT UNDER 37 C.F.R. § 1.111
Application Serial No. 10/020,130
Attorney Docket No. Q67762

REMARKS

Upon entry of the present amendment, claims 1-6, 8-10, and 18-32 are all the claims pending in the application. Claims 1, 6, 8, 9, 18, 19, and 20 are amended, and new claims 29-32 are added. No new matter is presented.

As an initial matter, Applicant notes that the Examiner incorrectly indicates that claims 1-28 are pending in the Office Action Summary. However, claims 11-17 were previously cancelled without prejudice or disclaimer.

The outstanding grounds of rejection are traversed, as discussed below.

Claim Rejections - 35 U.S.C. § 103

Claims 1, 18, 25 and 27 - Dabak in view of Toskala

Claims 1, 18, 25 and 27 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dabak (U.S. Patent No. 6,862,275) in view of Toskala (U.S. Patent No. 6,650,905). Applicant respectfully traverses and submits that the unique combination of features defined by these claims would not have been rendered obvious by Dabak and Tokala, as evidenced by the following.

For instance, claim 1 defines a novel transmission power control method for controlling transmission power of downlink signals from base stations to a mobile terminal in a mobile communications system, comprising , *inter alia*, selecting, at the mobile terminal, a first base station, the first base station transmitting user data in a downlink signal with a preferred reception quality; transmitting, from the mobile terminal, identification of the selected first base

station to the first base station and other base stations not selected by said mobile terminal; determining, at the mobile terminal, transmission power of downlink signals from the selected first base station and the other base stations not selected by said mobile terminal, the other base stations transmitting user data in the downlink signals to the mobile terminal after the identification of the selected first base station is transmitted; and sending information, from the mobile terminal to the selected first base station and the other base stations, to modify the transmission power of the downlink signals of the selected first base station and the other base stations based on the determined transmission power of the downlink signals from the selected first base station and the other base stations not selected by the mobile terminal.

As further defined by claim 1, the other base stations terminate transmission of user data to the mobile terminal if the identification, which is transmitted by the mobile terminal, is properly received at the other base stations, and the other base stations continue to transmit user data after the selecting of the first base station if the identification of the selected first base station transmitted by the mobile terminal is not properly received at the other base stations. In addition, the other base stations transmit user data to the mobile terminal prior to the selecting of the first base station, and the other base stations do not properly receive the identification of the selected first base station and continue to transmit without terminating transmission of user data.

Applicant submits that neither Dabak nor Toskala, whether taken alone or in combination, teach or suggest *at least* the feature of the information sent from the mobile terminal to the selected first base station and the other base stations to modify the transmission power of the downlink signals of the selected first base station and the other base stations is

transmitted *while the first base station is selected as transmitting user data with the preferred reception quality*, as claimed. In this regard, Applicant notes that Dabak teaches a communications network where the selection of a base station by a mobile terminal is based on whether base stations employ transmit diversity. *See* Dabak at col. 2, lines 27-34 and col. 6, lines 41-53. However, as conceded by the Examiner, Dabak does not suggest the feature of sending information from the mobile terminal to other base stations to modify the transmission power of the downlink signals of the base stations based on the determined transmission power of the downlink signals from the base stations not selected by the mobile terminal, among other features of claim 1 which are also deficient. *See* Office Action at page 6.

On the other hand, even assuming *arguendo* that the Examiner's asserted motivation to combine Toskala is proper, Toskala would fail to compensate for all the deficiencies of Dabak. For instance, Toskala teaches a soft-handover method in a telecommunications network in which user equipment (i.e., a cellular phone) selects one cell from an active set, periodically informs a primary cell ID to the connecting cells via an uplink in a feedback information field, and the non-primary cells, or the base stations that are not selected, terminate transmission of the Dedicated Physical Data Channel (DPDCH). *See* Toskala at col 10, lines 18-29. Toskala thus teaches a closed loop power control scheme during soft handover. However, in Toskala, the transmission power of the downlink signal is determined by user equipment (i.e., mobile terminal) based merely on a power level of the dedicated downlink from the *currently preferred* base station. *See* Toskala at col. 5, lines 22-43 and col. 9, lines 43-60.

Toskala does not suggest determining the transmission power of downlink signals *both* from a selected base station and other base stations not selected by the mobile terminal, as claimed, nor does Toskala teach the sending of information from the mobile terminal *both* to the selected first base station and the other base stations to modify the transmission power of the downlink signals of the selected first base station and the other base stations in the manner defined by claim 1. In this regard, Applicant notes that claim 1 recites that the information sent from the mobile terminal to the selected first base station and the other base stations to modify the transmission power of the downlink signals of the selected first base station and the other base stations is transmitted *while the first base station is selected* as transmitting user data with the preferred reception quality.

Thus, by virtue of the claimed method, one common control signal may be transmitted to all base stations including the selected base station as well as other base stations that are not selected, but continue to transmit user data, in order to control downlink transmission power of user data transmitted from all the base stations with the common control signal. By contrast, as noted above, Toskala teaches a power control method that is merely based on the power level of the currently preferred base station.

Accordingly, neither Dabak nor Toskala, whether taken alone or in combination, would teach or suggest all the features of claim 1. Reconsideration and withdrawal of the rejection of claim 1 is therefore requested. With respect to dependent claims 2-5 and 25, Applicant submits that these claims are allowable at least by virtue of their dependency and by virtue of the features recited therein.

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Further, Applicant submits that the above arguments are equally applicable to the rejection of claim 18, which defines a mobile terminal having features analogous to those recited by claim 1, and are likewise deficient in claim 18. Thus, claim 18 is allowable at least for reasons analogous to those discussed above. In addition, Applicant submits that dependent claims 20-23, 27 and 30 are allowable at least by virtue of depending from claim 18 and by virtue of the features recited therein.

Claims 2-5 and 23 - Dabak in view of Toskala and Mohebbi

Claims 2-5 and 23 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dabak in view of Toskala and Mohebbi (U.S. Patent No. 6,603,971).

Applicant respectfully traverses and submits that claims 2-5 and 23 are allowable at least by virtue of depending from claim 1 and by virtue of the features recited therein.

Claims 6, 19, 26 and 28 - Dabak in view of Toskala and Roxbergh

Claims 6, 19, 26 and 28 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dabak in view of Toskala and Roxbergh (U.S. Patent No. 6,553,016).

Applicant respectfully traverses and submits that the unique combination of features defined by these claims would not have been rendered obvious by Dabak, Toskala and Roxbergh, as evidenced by the following.

For instance, claim 6 defines a receiving method for demodulating user data in a downlink signal from base stations to a mobile terminal in a mobile communications system,

comprising, *inter alia*, selecting, at the mobile terminal, a first base station, the first base station transmitting user data in a downlink signal having a preferred reception quality; transmitting, from the mobile terminal, identification of the selected first base station to the first base station and other base stations not selected by the mobile terminal; and using downlink signals from the other base stations not selected by the mobile terminal, the other base stations transmitting user data after the identification of the selected first base station is transmitted, to demodulate, at the mobile terminal, user data from the selected first base station by combining the downlink signal of the selected first base station and the downlink signals from the other base stations not selected by the mobile terminal.

As further defined by claim 6, the other base stations terminate transmission of user data to the mobile terminal if the identification, which is transmitted by the mobile terminal, is properly received at the other base stations, and the other base stations continue to transmit user data after the selecting of the first base station if the identification of the selected first base station transmitted by the mobile terminal is not properly received at the other base stations. In addition, the other base stations transmit user data to the mobile terminal prior to the selecting of the first base station, and the other base stations do not properly receive said identification of the selected first base station and continue to transmit without terminating transmission of user data.

Applicant submits that none of Dabak, Toskala and Roxbergh, whether taken alone or in combination, teach or suggest at least the features of the step of using comprises determining an estimated uplink reception quality of the other base stations based on measuring, *at the mobile terminal*, transmission powers of each of the downlink signals from the other base stations,

wherein the user data from the selected first base station is demodulated by combining the downlink signal of the selected first base station and the downlink signals from said other base stations not selected by the mobile terminal such that the downlink signals from the other base stations are *individually weighted based on the estimated uplink reception quality* and combined with the downlink signal of the selected first base station *while the first base station is selected* as transmitting user data having the preferred reception quality.

The disclosures of Dabak and Toskala have been discussed above with respect to the rejection of claim 1. Further, as the Examiner concedes, neither Dabak nor Toskala teaches using downlink signals from other base stations not selected by the mobile terminal to demodulate user data. *See* Office Action at page 15.

In rejecting claim 6, as previously recited, the Examiner alleges that Roxbergh teaches demodulating user data from the selected first base station by combining the downlink signal of the selected first base station and downlink signal from the other base stations not selected. *See* Office Action at pages 15-16. In this regard, the Examiner contends that,

“...in one case base station 10 is the selected base station
and in another case base station 11 is the selected base station, the
base stations that are not selected are the other base stations.”

See Office Action at page 16.

However, Roxbergh merely teaches a type of soft-handover condition, or “soft diversity handoff”, in which a mobile station MS can be in communication with two base stations BS_A and BS_B, which are respectively located in different cells (e.g., cells 10, 11 and 12). *See* Roxbergh at

col. 4, lines 4-22. Thus, Roxbergh simply teaches that a mobile terminal can be in communication with two or more base stations during the soft diversity handoff condition.

Whether or not a base station in cell location 10 or 11 is considered to be selected, Roxbergh does not suggest any demodulating by combining the downlink signal of the selected first base station and the downlink signals from said other base stations not selected by the mobile terminal such that the downlink signals from the other base stations are *individually weighted based on the estimated uplink reception quality* and combined with the downlink signal of the selected first base station *while the first base station is selected* as transmitting user data having the preferred reception quality, as claimed. Rather, in Roxbergh, the soft-diversity handoff condition simply provides for the mobile terminal to maintain communication with two or more cells during the soft hand over state. Roxbergh therefore does not suggest demodulation of user data in a downlink signal in which downlink signals from non-selected base stations are weighted and combined with the downlink signal of the selected base station, in the manner claim.

Accordingly, even assuming *arguendo* the Examiner's asserted motivation to combine Dabak, Toskala, and Roxbergh is proper, the combination fails to teach or suggest all the features of claim 6. Accordingly, reconsideration and withdrawal of the rejection is requested. As to dependent claims 8-10 and 26, Applicant submits that these claims are allowable at least by virtue of their dependency and by virtue of the features recited therein.

In addition, Applicant submits that the above arguments are applicable to the rejection of claim 19, which defines a mobile terminal reciting analogous features which are likewise deficient in Dabak, Toskala, and Roxbergh. Thus, claim 19 should be allowed at least for reasons analogous to those discussed above with respect to claim 6. Applicant further submits that claims 24, 28, and 31-32 are allowable at least by virtue of depending from claim 6 and by virtue of the features recited therein.

Claims 7-10, 20-22 and 24 - Dabak in view of Toskala, Roxbergh and Mohebbi

Claims 7-10, 20-22 and 24 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Dabak in view of Toskala, Roxbergh and Mohebbi. Applicant respectfully traverses, as discussed below.

With respect to claim 7, Applicant submits that this ground of rejection is moot in view of the cancellation of claim 7 without prejudice or disclaimer. As to claims 8-10, 20-22 and 24, Applicant submits that these claims are allowable at least by virtue of depending from claims 6 and 18, respectively, and by the features recited therein.

New Claims

In order to provide additional claim coverage merited by the scope of the present invention, Applicant is adding new claims 29-32. Applicant submits that claims 29-32 are allowable at least by virtue of their dependency and by virtue of the features recited therein.

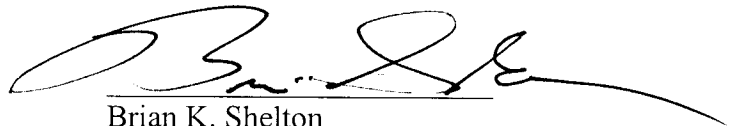
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Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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